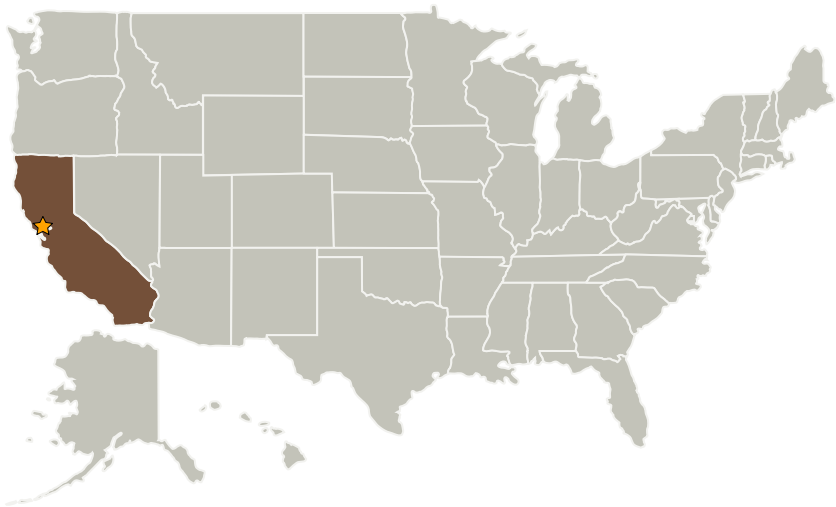
Small Space Platform Enhanced Internet Protocol Stack Device, Phase I

Completed Technology Project (2009 - 2009)

Project Introduction

To address the NASA/ARC need for wireless networking technologies for small launch vehicles, Broadata Communications, Inc. proposes to develop a new Small Space Platform Internet Protocol (SSP-IP) Stack with Space-Enhanced TCP and devices to achieve high performance networking, despite typical space link problems and footprint constraints. BCI's approach incorporates advanced Space IP network measurements and their application in small embeddedable TCP. Our SSP-IP stack offers Internet-based protocols that provide seamless network command and control continuity between terrestrial and space-based platforms as well as networked operations of distributed ground stations. NASA will benefit from our SSP-IP by increasing simplicity of seamless network transmission and lowering cost. In Phase I BCI will demonstrate the feasibility of using SSP TCP to reliably transmit space imagery from a Nanosat launching vehicle by building, testing and integrating with hardware a preliminary version, which will demonstrate a TRL-level 3 by the end of Phase I. In Phase II, BCI plans to develop a fully functional prototype and demonstrate the low complexity and embeddability to NASA's platform with high performance. The demonstrated results will offer NASA capabilities to use our reliable SSP TCP in future ground and spacecraft operations, increasing efficiency and saving money.

Primary U.S. Work Locations and Key Partners



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Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

Lead Center / Facility:

Ames Research Center (ARC)

Responsible Program:

Small Business Innovation Research/Small Business Tech Transfer

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Organizations Performing Work	Role	Type	Location
★Ames Research Center(ARC)	Lead Organization	NASA Center	Moffett Field, California
Broadata Communications, Inc.	Supporting Organization	Industry	Torrance, California

Primary U.S. Work Locations
California

Project Management

Program Director:

Jason L Kessler

Program Manager:

Carlos Torrez

Technology Areas

Primary:

- TX06 Human Health, Life Support, and Habitation Systems
  - TX06.2 Extravehicular Activity Systems
    - TX06.2.3 Informatics and Decision Support Systems